

By



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,689	11/04/2003	Jyrki Mattila	59643.00310	4933

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EXAMINER

LAM, DUNG LE

ART UNIT	PAPER NUMBER
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2687

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/699,689

**Applicant(s)**

MATTILA, JYRKI

**Examiner**

Dung Lam

**Art Unit**

2687

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Great Britain on 4/24/03. It is noted, however, that applicant has not filed a certified copy of the 11/4/03 application as required by 35 U.S.C. 119(b).

### *Claim Objections*

2. Claim 4 is objected to because of the following informalities:

Claim 4, the word "whereina" should be corrected to -- wherein a --.

Claim 22, the word "carrierin" should be corrected to -- carrier in--.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims **1,4,5-18** are rejected under 35 U.S.C. 102(b) as being anticipated by *Schilling* (US Patent Number 6128328).
5. Regarding **claim 1**, Schilling teaches in Figure 5 a cellular communication system comprising: at least one cell, said at least one cell being defined by a coverage layer (A, B, C, Fig. 5) defining a coverage of said at least one cell, and a capacity layer (1, 2, 3, Fig. 5) at least partly defining a capacity of said at least one cell (Col. 3, lines 36-39 and Col. 8, lines 21-28).

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6. Regarding claim 4, Schilling teaches all the limitations according to claim 1. Schilling further teaches that a number of carriers in the capacity layer is inherently variable (Col. 8 lines 31-35 and Col. 10, lines 25-26). It is inherent because the radii of the concentric area is adjustable which means the density or capacity of the layer is variable.
7. Regarding claim 5, Schilling teaches all the limitations according to claim 1. Schilling further teaches a power level of at least one carrier of said number of carriers in the capacity layer is variable (Col. 10, line 19-21 and Col. 11, lines 51-65).
8. Regarding claim 6, Schilling teaches all the limitations according to claim 1. Schilling teaches that a total transmission power for a downlink is divided between the coverage layer and the capacity layer of said at least one cell. (Col. 11, lines 30-65).
9. Regarding claim 7, Schilling teaches all the limitations according to claim 6. Schilling further teaches power available for at least one of the coverage layer and the capacity layer is divided between carriers in the coverage layer and the capacity layer (Col. 11, lines 30-65).
10. Regarding claim 8, Schilling teaches all the limitations according to claim 1. Schilling teaches the cellular communication system comprises a multi-carrier system (6 directional antenna 109, Col. 7, lines 22-29).
11. Regarding claim 9, Schilling teaches all the limitations according to claim 1. Schilling further teaches the cellular communication system comprises a single carrier system (6 omni-directional antenna 109, Col. 7, lines 22-29).

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12. Regarding claims 10-18, they are method claims corresponding to the apparatus claims

1-9. Therefore, they are rejected for the same reasons as claims 1-9.

***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 2, 3 and 19-21 is rejected under 35 U.S.C. 103(a) as being unpatentable by *Schilling* (US Patent Number 6128328) and applicant's admission on Col. 1 paragraph 7 (simply referred to as "admitted-prior-art").

15. Regarding claim 2, Schilling teaches all the limitations according to claim 1. Schilling's teachings inherently discloses a power level of a carrier in a downlink of the coverage layer defines the coverage of said at least one cell. From Col. 3, lines 40-57, Schilling teaches a base station coupled with base-power means to radiates signal over a coverage area from the base station to a remote which means there is an inherent power level that a conventional broadcast channel can reach a mobile at the boundary of a cell thereby defining the boundary of the coverage area. Furthermore, **admitted-prior-art** also discloses that in GSM systems the cell coverage is determined by the carrier for the broadcast control channel (Applicant's disclosure, Col. 1, para. 7).

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16. Regarding **claim 3**, Schilling and admitted-prior-art teach all the limitations according to claim 2. Schilling further teaches said power level is variable (Col. 10, line 19-21).

17. Regarding **claim 19**, it is a combination of claims 2, 1 and 4. Therefore, it is rejected for the same reasons as claim 1,2 and 4.

18. Regarding **claim 20**, Schilling and admitted-prior-art teach all the limitations according to claim 19. Schilling further teaches power levels of a variable number of carriers depends upon a proximity of a mobile station associated with a carrier to a base station (Col. 10, lines 25-27).

19. Regarding **claim 21**, Schilling and admitted-prior-art teach all the limitations according to claim 20. Schilling further teaches a total power of the variable number of carriers comprises a predetermined power, and wherein a portion of said predetermined power among the variable number of carriers is determined by a total number of carriers (Col. 11, lines 30-65).

20. Claims **22** is rejected under 35 U.S.C. 103(a) as being unpatentable by *Schilling* (US Patent Number 6128328) in view of applicant's admission on Col. 1 paragraph 7 (simply referred to as "admitted-prior-art") further in view of **Lawrence** (US Publication Number 2004/0203837).

21. Regarding **claim 22**, Schilling and admitted-prior-art teach all the limitations according to claim 21. Schilling further teaches a second transmitting means for transmitting a variable number of users. However, he fails to teach that the power allocated to at least one carrier is configured to reduce in response to an increase in the variable number of carriers. In an analogous art, Lawrence teaches that the power level is adjusted according to the subscriber density and demand in a particular region (para. 2). Therefore, it would have been obvious for one of ordinary skill in the art the time of

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the invention to modified Schilling's teaching to include an adjustable power level in accordance to the capacity of the cell to maximize the signal quality.

### ***Citation of Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Doner** (US Patent No. 5758090) discloses a method of controlling frequency reuse, wherein various set of frequencies are assigned to different concentric areas.

**Takenaka et al.** (US Patent No. 5448751) discloses a method of assigning radio channel that utilize the properties of radio frequency and concentric circles.

**Choi et al.** (US Publication No. 2004/0229622) discloses a method for power saving routing using concentric circles.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Lam whose telephone number is (571) 272-6497. The examiner can normally be reached on M - F 8-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DL

8/22/2005

  
**ELISEO RAMOS-FELICIANO**  
**PATENT EXAMINER**